

Claims

- [c1] WE CLAIM:
1. A signal switch for sharing a video monitor, a plurality of console devices compliant with an industry standard and one or more than one peripheral device in any of a plurality of computer systems, comprising:
 - a CPU comprising a first memory for storing a management program for managing the signal switch;
 - a hub switch module connected to the CPU and configured to communicate with any of the plurality of computer systems, and the one or more than one peripheral device, such that a signal passing from the hub switch module to the one or more than one peripheral device emulates origination from a computer;
 - a device control module for emulating according to the industry standard the plurality of console devices, connected to the CPU and the hub switch module;
 - a host control module connected to the CPU and configured to communicate with the plurality of console devices; and
 - a video control module connected to the CPU and configured to communicate with a video monitor device.
 - [c2] 2. The signal switch of claim 1, further comprising an OSD control device connected to the CPU and the video control module.
 - [c3] 3. The signal switch of claim 1, the host control module comprising a root hub.
 - [c4] 4. The signal switch of claim 1, wherein the industry standard is the Device Class Definition for Human Interface Devices (HID).
 - [c5] 5. A method for sharing a video monitor, a plurality of console devices compliant with an industry standard and one or more than one peripheral device in any of a plurality of computer systems through a signal switch, comprising:
 - initializing the signal switch;
 - emulating one or more of the console devices according to the industry standard;

enumerating ports of a root hub;
determining whether any downstream ports exists, and if so, enumerating
the downstream ports;
determining whether any of the plurality of console devices is connected
to the root hub, or any downstream ports, and if so, then enumerating
each connected device;
determining whether any of the connected devices is compliant with the
industry standard;
enumerating each complaint connected device and parsing any data from
such device; and
repeatedly polling to determine whether any of the plurality of console
devices, any of the one or more than one peripheral device, or any
downstream port, has been plugged or unplugged, and if so, resetting
control.

[c6] 6. The signal switch of claim 1, where the management program comprises
steps for managing the signal switch, and the method of claim 5.

[c7] 7. A signal switch for sharing one or more console devices and one or more
peripheral devices in any of a plurality of computer systems, comprising:
a first channel for connecting a selected console device from the one or
more console devices to a first selected computer system from the
plurality of computer systems;
a second channel connecting the first selected computer system to a
selected peripheral device from the one or more peripheral devices, the
second channel having a data flow between the first selected computer
system and the selected peripheral device;
a third channel for connecting the selected console device to a second
selected computer system from the plurality of computer systems; and
means for switching the selected console device between the first channel
and the third channel without interruption of the data flow through the
second channel between the first selected computer system and the
selected peripheral device.